

Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[]].

In brief, claims 1-4, 10, 12, and 16 have been canceled, without prejudice; claims 5, 9, 11, 13-15, 21, 22, 24, and 26-30 have been amended; and new claims 34-40 have been added.

1-4. (Canceled)

5. (Currently Amended) A bone screw for compression of a bone, comprising:

a shank including a thread **and defining a long axis and a direction of advancement into bone**; and

a head connected to the shank and ~~including a lateral surface~~ defining a plurality of ledge structures **disposed at spaced positions along the head, each ledge structure facing generally toward the direction of advancement and extending partially or completely around the head to define a respective plane disposed orthogonally to the long axis** ~~disposed circumferentially on the head.~~

6. (Original) The bone screw of claim 5, wherein the shank has a proximal portion adjacent the head and a distal portion spaced from the head, and wherein the thread is restricted to the distal portion.

7. (Original) The bone screw of claim 5, wherein the thread defines an opening so that the bone screw is self-tapping.

8. (Original) The bone screw of claim 5, wherein the shank includes a tip region configured to cut a hole in the bone as the bone screw is advanced into the bone.

9. (Currently Amended) The bone screw of claim 5, wherein the ledge structures are **formed by** ~~defined by at least one of a plurality of ridges, [[and]] a plurality of grooves,~~ **or both**.

10. (Canceled)

11. (Currently Amended) The bone screw of claim **5** ~~[[10]]~~, wherein ~~the at least one~~ **one or more of the plurality of** ledge structures ~~describes a complete~~ **extend in a closed loop corresponding to a** circle.

12. (Canceled)

13. (Currently Amended) The bone screw of claim 5, wherein ~~the diameter of the plurality of ledge structures~~ **have a corresponding plurality of diameters, and wherein the diameters** decrease[[s]] successively toward the shank.

14. (Currently Amended) The bone screw of claim 5, wherein the **head is shaped generally as** ~~lateral surface generally describes a frustum of a cone.~~

15. (Currently Amended) The bone screw of claim 5, wherein the head includes a plurality of steps defined by stepwise decreases in the diameter of the head, **and wherein the plurality of ledge structures are included in the plurality of steps**.

16. (Canceled)

17. (Original) The bone screw of claim 5, wherein the shank and the head define opposing ends of the bone screw and further define an axial bore extending between the opposing ends.

18. (Original) The bone screw of claim 17, wherein the axial bore includes a widened region configured to receive a tool that engages the head.

19. (Original) The bone screw of claim 5, wherein the head is fixedly connected to the shank.

20. (Original) The bone screw of claim 5, wherein the head is rotatably and/or slidably connected to the shank.

21. (Currently Amended) A bone screw for compression of a bone, comprising:

a shank including a proximal region, a distal region, and a thread restricted to the distal region; and

a head connected to the shank and spaced from the thread by the proximal region, the head including a lateral surface defining a plurality of spaced ledge structures disposed on the head, each ledge structure describing at least a portion of a circle.

22. (Currently Amended) The bone screw of claim 21, wherein the ledge structures are defined by ~~at least one of~~ a plurality of ridges, ~~[[and]]~~ a plurality of grooves, or both.

23. (Original) The bone screw of claim 21, wherein the ledge structures describe complete circles.

24. (Currently Amended) The bone screw of claim 21, wherein the head includes a plurality of steps defined by stepwise decreases in the diameter of the head, **and wherein the plurality of ledge structures are included in the plurality of steps.**

25. (Original) The bone screw of claim 21, wherein the head is generally frustoconical in shape.

26. (Currently Amended) The bone screw of claim 21, **wherein the shank defines a long axis, wherein the head has a maximum diameter, wherein the head has an axial length that is measured parallel to the long axis, wherein** the head **has** having an aspect ratio defined by the axial length of the head relative to the maximum diameter of the head, **and** wherein the aspect ratio is at least 1:1.

27. (Currently Amended) A bone screw for compression of a bone, comprising:

a shank including a thread **and defining a long axis**; and

a head connected rotatably to the shank and configured to follow the shank into the bone, the head having an aspect ratio defined by its axial length relative to its maximum diameter, the aspect ratio being at least 1:1,

wherein the axial length is measured parallel to the long axis.

28. (Currently Amended) A method of compressing a bone with a bone screw, comprising:

forming a hole in the bone;

selecting a bone screw having a shank and a head; and

advancing first the shank and then the head of the bone screw into the hole so that the head contacts and applies an axial force selectively to a plurality of spaced

annular regions of the bone **that each define a respective plane**, such that portions of the bone near the head are compressed toward portions of the bone near the shank.

29. (Currently Amended) The method of claim 28, the spaced **annular** regions being separated by interposed regions of the bone, wherein the step of advancing also applies an axial force to the interposed regions, the axial force applied to the interposed regions being less than the axial force applied to the plurality of spaced **annular** regions.

30. (Currently Amended) The method of claim 28, the spaced **annular** regions being separated by interposed regions of the bone, wherein the step of advancing also applies no substantial axial force to the interposed regions.

31. (Original) The method of claim 28, wherein the step of forming a hole includes forming a bore and a counterbore, and wherein the step of advancing the bone screw disposes the head and the shank at least substantially in the counterbore and the bore, respectively.

32. (Original) The method of claim 28, wherein the step of forming a hole is performed by the step of advancing a bone screw.

33. (Original) The method of claim 28, wherein the portions of the bone near the head and the portions of the bone near the shank are initially separated by a fracture in the bone.

34. (New) The bone screw of claim 5, wherein one or more of the ledge structures slopes radially outward, generally toward the direction of advancement into bone.

35. (New) A bone screw for compression of a bone, comprising:
a shank including a thread and defining a long axis and a direction of advancement into bone; and
a head connected to the shank and including a plurality of spaced shoulders of different diameter, each shoulder facing generally in the direction of advancement and extending partially or completely around the long axis in a respective path defining a plane.
36. (New) The bone screw of claim 35, wherein each shoulder follows a respective path defining a plane oriented orthogonally to the long axis.
37. (New) The bone screw of claim 35, wherein each shoulder follows a respective path corresponding to one or more portions of a circle or a complete circle.
38. (New) The bone screw of claim 35, wherein each shoulder extends completely around the long axis in a closed loop.
39. (New) The bone screw of claim 35, wherein each shoulder slopes radially outward, generally toward the direction of advancement into bone.
40. (New) The bone screw of claim 35, wherein the head includes at least one generally cylindrical segment disposed at least partially between a pair of the shoulders.